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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,845	10/14/2003	Hsien-Ying Chou	B-5266V621370-8	8435
36716	7590	03/07/2005	EXAMINER	
LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679			NGUYEN, HOAN C	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/685,845	Applicant(s) CHOU ET AL.	
	Examiner HOAN C. NGUYEN	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Shin et al. (US6429842B1).

In regard to claim 1, Shin et al. teach (Figs. 6-7B) a liquid crystal display (LCD) panel, using dot inversion driving to present a video signal polarization arrangement spatially similar to line inversion driving on the panel, comprising:

- a plurality of scan electrodes G1-Gm;
- a plurality of data electrodes D1-Dn;
- a plurality of display units (pixels P11-Pmn), each corresponding to a crossed scan electrode and data electrode and having a pixel electrode and a control transistor (T11-Tmn),
- common electrode on another substrate connected to each pixel electrode to form a liquid crystal capacitor for each display unit since the liquid crystal molecules inherently disposes between the pixel electrodes and the common electrode (claim 3).

wherein

- gates of control transistors of two adjacent display units in a row between a first and second adjacent scan electrode are respectively connected to the first scan electrode and the second scan electrode as Fig. 6 shown, and
- when dot inversion driving is completed for a frame on the LCD panel, display units in the same row of the frame have the same video signal polarization and display units in two adjacent rows of the frame present polarizations opposite to each other (Figs. 7a-b, col. 2 lines 8-11).

In regard to claim 4, Shin et al. teach (Figs. 6-7B) a driving method for an LCD panel including a plurality of scan electrodes, a plurality of data electrodes, and a plurality of display units, each corresponding to a crossed scan electrode and data electrode and having a pixel electrode and a control transistor, the driving method comprising the steps:

- changing display unit arrangement as Figs. 7a-b shown on the LCD panel such that gates of control transistors (T11-Tmn) of two adjacent display units in the same row are respectively connected to a first scan electrode and a second scan electrode, thus forming the LCD panel structure; and
- performing dot inversion driving to the display units (Figs. 7a-b, col. 2 lines 8-11), wherein when the dot inversion driving is completed for a frame on the LCD panel, all display units in the same row of the frame have the same video signal polarization and display units in two adjacent rows of the frame present polarization opposite to each other (Figs. 7a-b, col. 2 lines 8-11).

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Noguchi et al. (US 20030112213 A1).

In regard to claims 1 and 3, Noguchi et al. teach (Figs. 1 and 8) a liquid crystal display (LCD) panel, using dot inversion driving to present a video signal polarization arrangement spatially similar to line inversion driving on the panel, comprising:

Claim 1:

- a plurality of scan electrodes 32;
- a plurality of data electrodes 34;
- a plurality of display units 10, each corresponding to a crossed scan electrode and data electrode and having a pixel electrode and a control transistor 20,

Claim 3:

- Fig. 8A-B shows a storage capacitor C_s and liquid crystal capacitor C_{LC} which inherently includes a common electrode, connected to each pixel electrode to form a liquid crystal capacitor for each display unit.

wherein

- gates of control transistors of two adjacent display units in a row between a first and second adjacent scan electrode are respectively connected to the first scan electrode and the second scan electrode as Fig. 1 shown, and

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- when dot inversion driving (dot inversion technique) is completed for a frame on the LCD panel, display units in the same row of the frame have the same video signal polarization and display units in two adjacent rows of the frame present polarizations opposite to each other (paragraphs 100-102).

In regard to claim 4, Shin et al. teach (Fig. 1) a driving method for an LCD panel including a plurality of scan electrodes, a plurality of data electrodes, and a plurality of display units, each corresponding to a crossed scan electrode and data electrode and having a pixel electrode and a control transistor, the driving method comprising the steps:

- changing display unit arrangement on the LCD panel such that gates of control transistors 20 of two adjacent display units in the same row are respectively connected to a first scan electrode 32 and a second scan electrode 32, thus forming the LCD panel structure; and
- performing dot inversion driving to the display units (dot inversion technique, paragraphs 100-102),

wherein when the dot inversion driving is completed for a frame on the LCD panel, all display units in the same row of the frame have inherently the same video signal polarization and display units in two adjacent rows of the frame present polarization opposite to each other (the underlined features inherence for dot inversion technique).

wherein

Claims 2 and 5:

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- gates of control transistors of two adjacent display units in a column between two adjacent data electrodes are not connected to the same scan electrode as Fig. 1 shown.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Shiba et al. (US 6075505 A) disclose an active matrix liquid crystal display, wherein adjacent two odd and even pixels are commonly connected to a single signal line, and two scanning lines are allocated to one horizontal display line, two switching elements of the adjacent two odd and even pixels are respectively connected to different ones of the two scanning lines and further the odd and even display lines are opposite to each other in connections of the display lines and the switching elements.

Lay (US 6593905 B1) discloses a liquid crystal display panel, which is driven by the dot-inversion driving scheme or the column-inversion driving scheme, and its control method.

Ikeda (US 6717630 B1) discloses a liquid crystal display device including (a) a pixel electrode, (b) a first signal line extending along one side of the pixel electrode, and (c) a second signal line extending along the other side of the pixel electrode. FIG. 5A illustrates polarity of pixel electrodes in a screen in a certain display updating period, and FIG. 5B illustrates polarity of pixel electrodes in a screen in a next display updating period both in dot inversion drive.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim H Robert can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HOAN C. NGUYEN
Examiner
Art Unit 2871

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